Table of Fourier Transform and Inverse Transforms :-

Sr.No.	Name of the Transforms	Interval	Expression for the Transform	Inverse Transform
1	Fourier	$-\infty < x < \infty$	$F(\lambda) = \int_{-\infty}^{\infty} f(u)e^{-i\lambda u}du$	$f(x) = \frac{1}{2\pi}\int_{-\infty}^{\infty} F(\lambda)e^{i\lambda x}d\lambda$
2	Fourier cosine (for even fut^{n})	$-\infty < x < \infty$	$F_c(\lambda) = \int_{0}^{\infty} f(u)cos\lambda u du$	$f(x) = \frac{2}{\pi}\int_{0}^{\infty} F_c(\lambda)cos\lambda x du$
3	Fourier sine (for odd fut^{n})	$-\infty < x < \infty$	$F_s(\lambda) = \int_{0}^{\infty} f(u)sin\lambda u du$	$f(x) = \frac{2}{\pi}\int_{-\infty}^{\infty} F_s(\lambda)sin\lambda x d\lambda$